AVMap Digital Application S.A.
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User Manual
Web GIS for the EPIC2020 Project

http://maps.epic2020.eu/

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1 Tool No1: GIS maps

1.1 Access to the platform

To access the platform you need a computer with an internet connection and an updated browser.

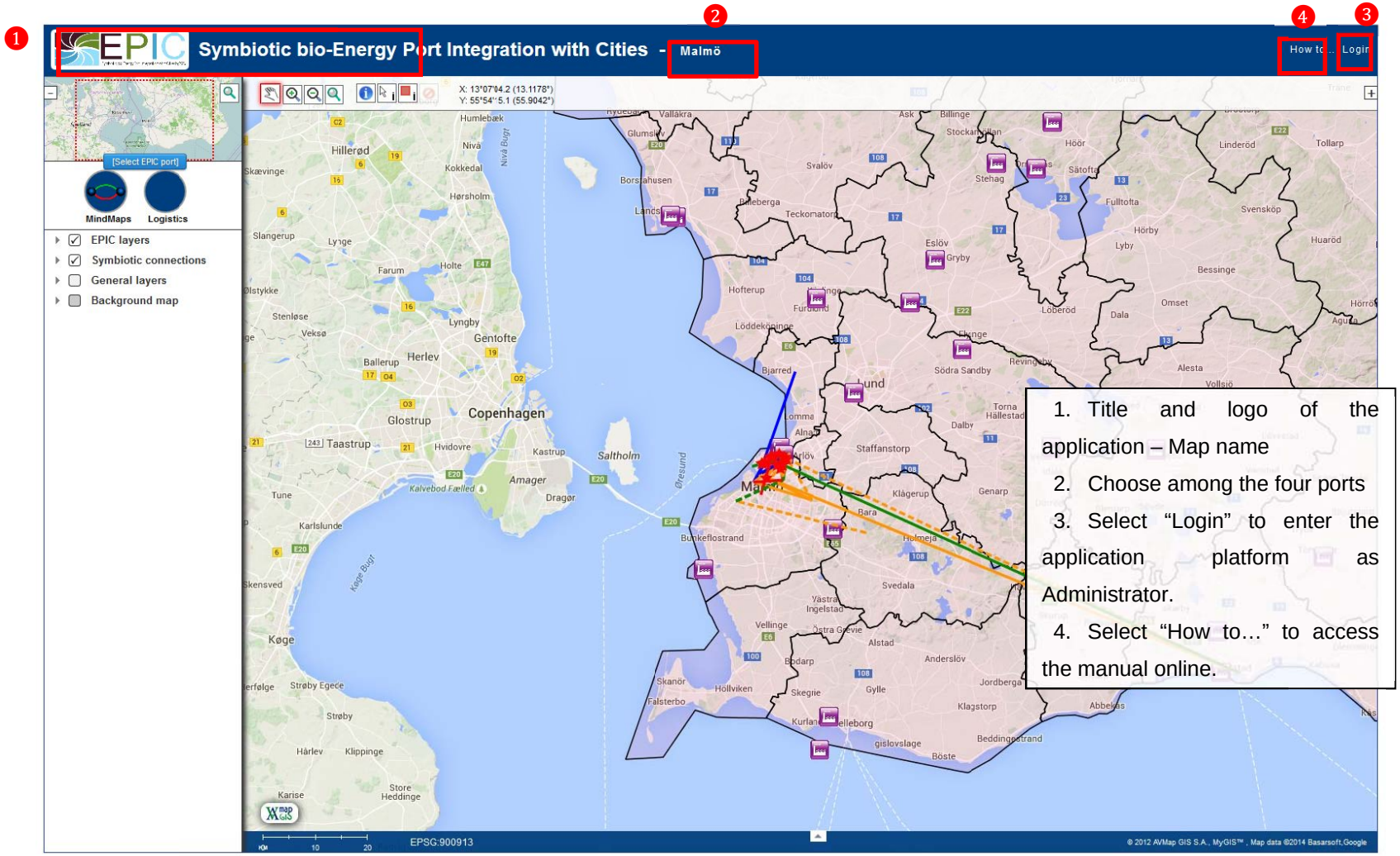
We suggest the use of one of the following browsers:

- Google Chrome
- Mozilla Firefox
- Microsoft Internet Explorer 10 or higher
- Apple Safari

The web address of the platform is:

http://maps.epic2020.eu/

1.2 Structure of the platform



1. Title and logo of the application – Map name
2. Choose among the four ports
3. Select "Login" to enter the application platform as Administrator.
4. Select "How to…" to access the manual online.

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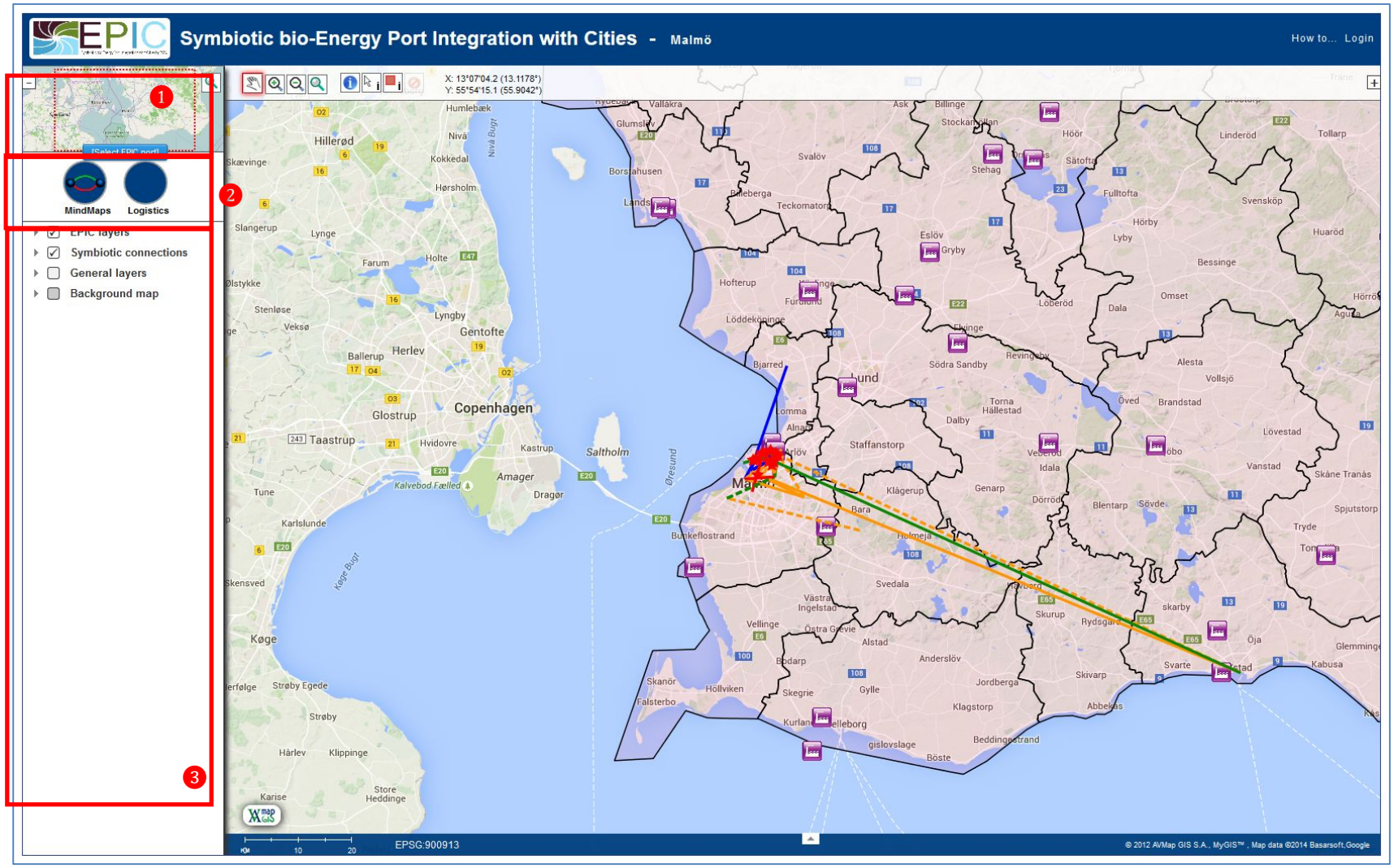

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1. Mini map

This window shows the map of the wider area of the region, which has been selected by the user in the map window. Also, from this point and the tool "Search location", the user can search a specified area or an address on the map.

2. Application actions

The user can select between two different actions:

- "Mindmaps": which opens a popup window, allowing the user to navigate through the Mindmaps Tool of the Platform
- "Logistics": which opens a popup window allowing the user to check transportation cost, transportation time and environmental footprint for a given distance and means of transportation.

3. Layer pane

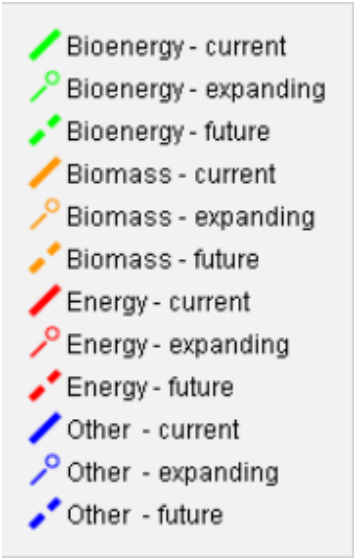
In the layer pane, data layers are organized in categories. There are four categories:

1. EPIC layers – This group contains the layers related to bioenergy potential. The layers contained are Companies, Biogas plants and bioenergy potential.
2. Symbiotic connections – This group contains the symbiotic connections between entities.
3. General layers – This group contains generic port data for each location. The number of layers under this category differs according to the data the project team was able to collect.
4. Background map - Background layers are common to all ports studied and are sourced from google maps (open source). They contain all geographical information present in Google Maps

Layer Analysis

Companies: The layer "Companies" includes those enterprises which participated in the EPIC 2020 D3.1 Deliverable, but does not exclude other enterprises present in the area.

Connections: Connections represent the symbiotic links among industries / companies, as shown in D3.1, but in a geographical context. Mouse over the "Connections" layer will trigger a window popup, with all the possible combinations of symbiotic connection types, according to D3.1. Green stands for bioenergy, orange for biomass, red for conventional energy and blue for any other type of materials (e.g. water, N2, plastics, metals etc.) "Current" connections are the ones that are already defined/uncovered by the partners, "future" connections are the ones that are proposed within the EPIC2020 project. "Expanding" connections are the ones that are already established, but could be further developed (additional investments in existing synergies).



Bioenergy plants / biogas plants: Bioenergy plants / biogas plants shown are plants that exist and are currently producing bioenergy. Biogas potential, total municipality residue, pig farms and slaughterhouses, are layers of biomass producers which are suitable for biogas production.

Land uses:

This layer comes from the European Project: CLC: "Corine Land Cover". To examine the legend with the colors of the greater Region, the user has to mouse over the corresponding layer. The contents for the four corresponding layers are shown below.

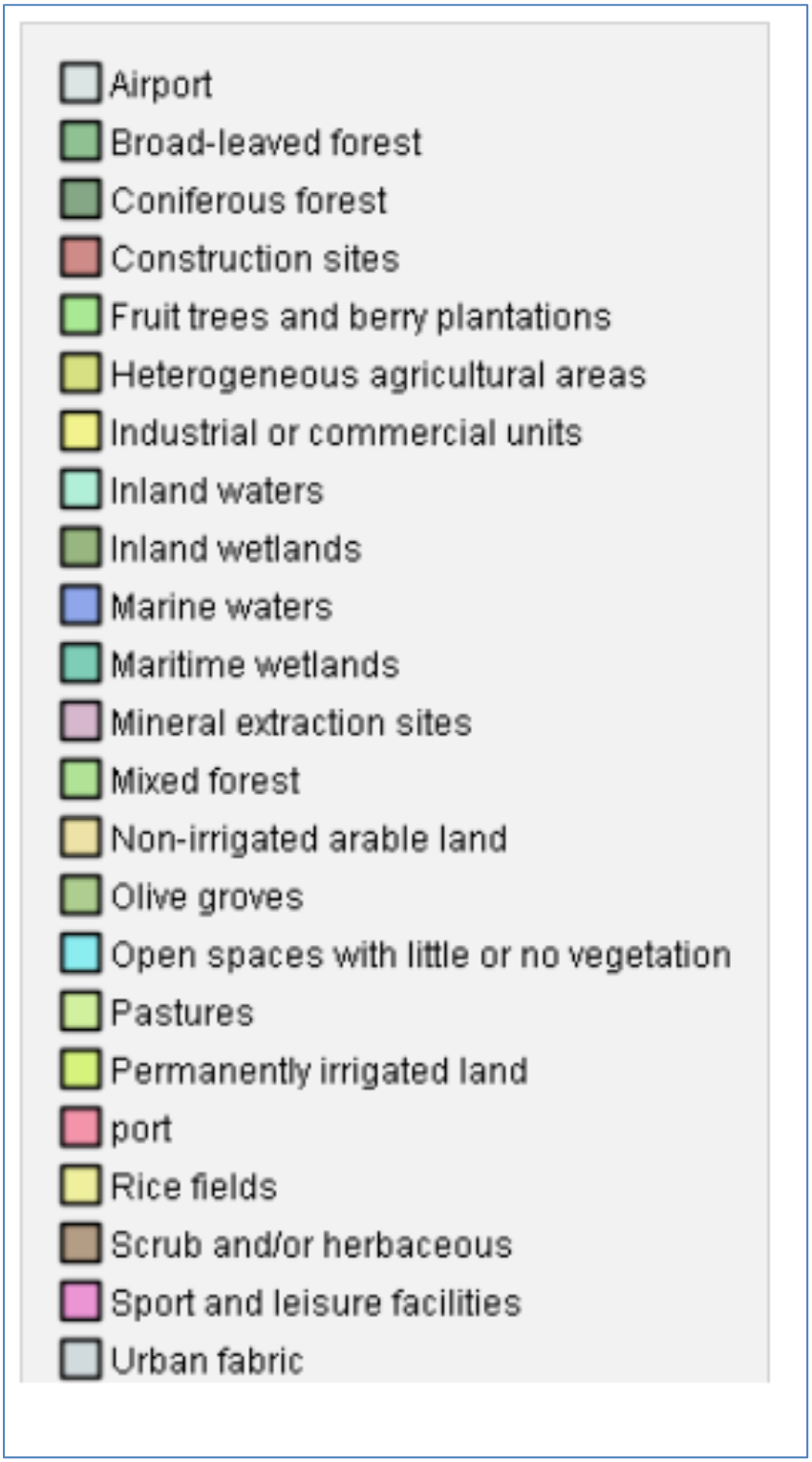
Malmo

Broad-leaved forest
Fruit trees and berry plantations
Coniferous forest
Marine waters
Heterogeneous agricultural areas
Sport and leisure facilities
Construction sites
Dump sites
Urban fabric
Pastures
Open spaces with little or no vegetation
Industrial or commercial units
Inland wetlands
Roads
Inland waters
Non-irrigated arable land
Green urban areas
Mixed forest
Mineral extraction sites
Ports
Airport

Mantova

Airport
Broad-leaved forest
Coniferous forest
Construction sites
Fruit trees and berry plantations
Green urban areas
Heterogeneous agricultural areas
Industrial or commercial units
Inland waters
Inland wetlands
Marine waters
Maritime wetlands
Mineral extraction sites
Mixed forest
Non-irrigated arable land
Olive groves
Open spaces with little or no vegetation
Pastures
Permanently irrigated land
port
Rice fields
Roads
Scrub and/or herbaceous
Sport and leisure facilities
Urban fabric
Vineyards

Airport
Broad-leaved forest
Coniferous forest
Construction sites
Dump sites
Fruit trees and berry plantations
Green urban areas
Heterogeneous agricultural areas
Industrial or commercial units
Inland waters
Inland wetlands
Marine waters
Maritime wetlands
Mineral extraction sites
Mixed forest
Non-irrigated arable land
Olive groves
Open spaces with little or no vegetation
Pastures
Permanently irrigated land
Ports
Rice fields
Roads
Scrub and/or herbaceous
Sport and leisure facilities
Urban fabric
Vineyards


Airport
Broad-leaved forest
Coniferous forest
Construction sites
Fruit trees and berry plantations
Heterogeneous agricultural areas
Industrial or commercial units
Inland waters
Inland wetlands
Marine waters
Maritime wetlands
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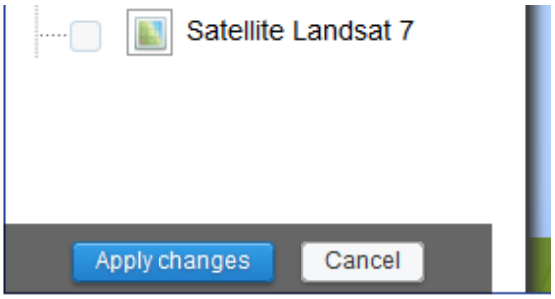
Open spaces with little or no vegetation
Pastures
Permanently irrigated land
port
Rice fields
Scrub and/or herbaceous
Sport and leisure facilities
Urban fabric

The indication next to an information layer indicates that the corresponding layer is activated on the central map. To stop showing an information layer on the map the user has to deselect the corresponding icon . For every change - either activating a layer or deactivating it - to take effect, the user has to press the *"Apply changes"* button on the bottom of the layers' menu.



If the process is cancelled, the user is directed back to the home page before the selection of the map change.

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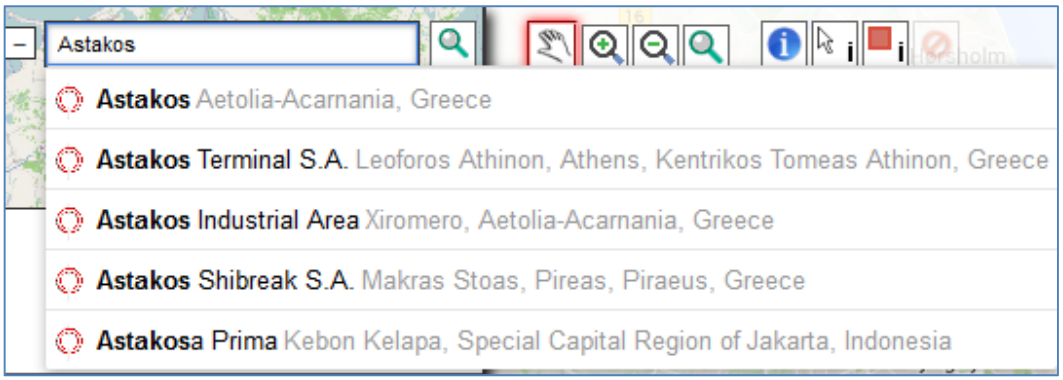
1.3 Search

The application has the following different ways to search:

- Search location
- Search currently displayed data
- Search database
- Geotools

1.3.1 Search location

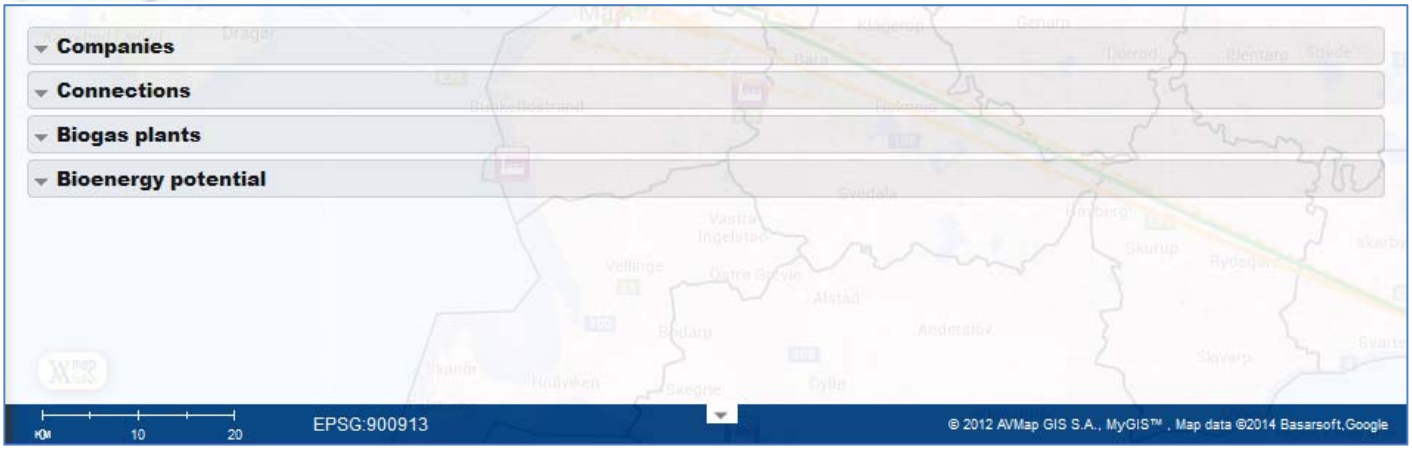
By selecting the magnifying glass icon located on the upper left portion of the screen, a textbox appears where the user can search for an address, a location or a landmark.

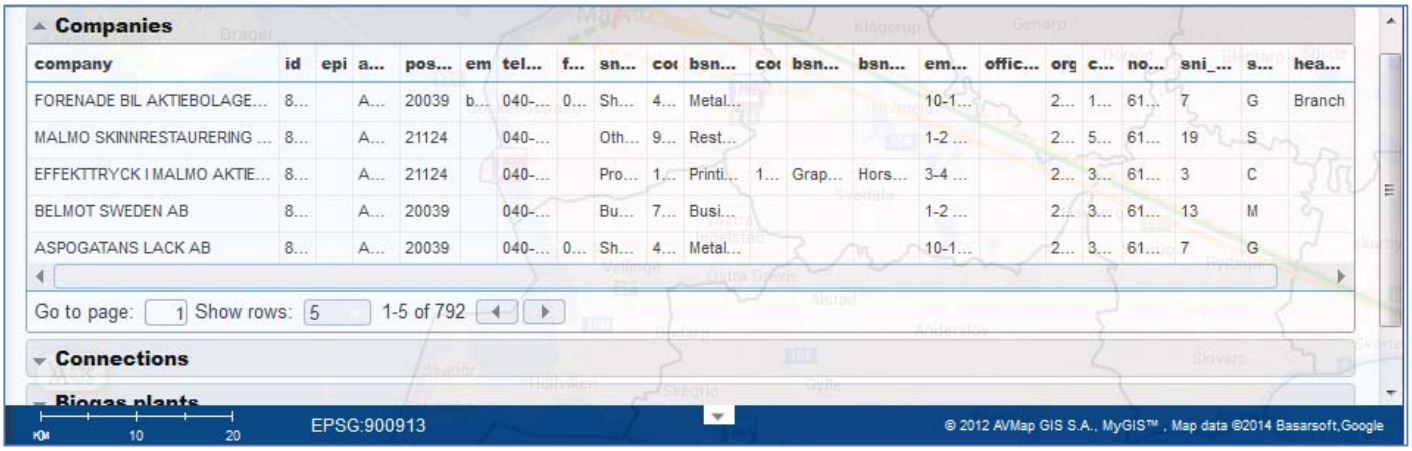

Astakos
Astakos Aetolia-Acarnania, Greece
Astakos Terminal S.A. Leoforos Athinon, Athens, Kentrikos Tomeas Athinon, Greece
Astakos Industrial Area Xiromero, Aetolia-Acarnania, Greece
Astakos Shibreak S.A. Makras Stoas, Pireas, Piraeus, Greece
Astakosa Prima Kebon Kelapa, Special Capital Region of Jakarta, Indonesia

Results are shown on a list and change as the user types. By selecting a result from the list, the map will re-focus to show the selected result.

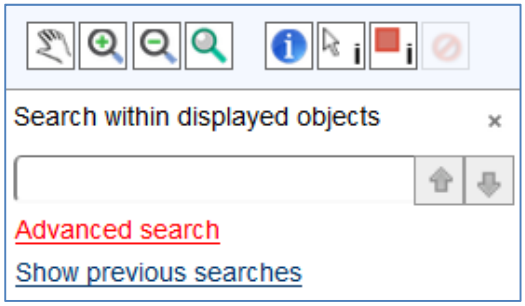
1.3.2 Search currently displayed data

By pressing the arrow located on the bottom area of the screen, a pane is displayed for the data that appear on the map. While this pane is open, data are refreshed with every pan or zoom of the map.



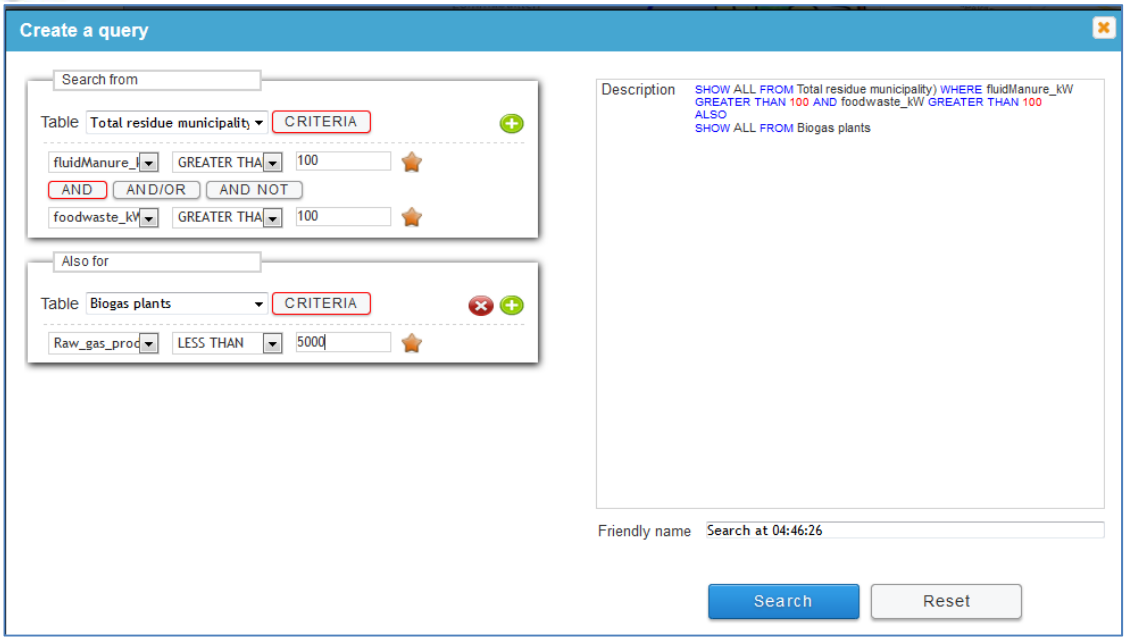


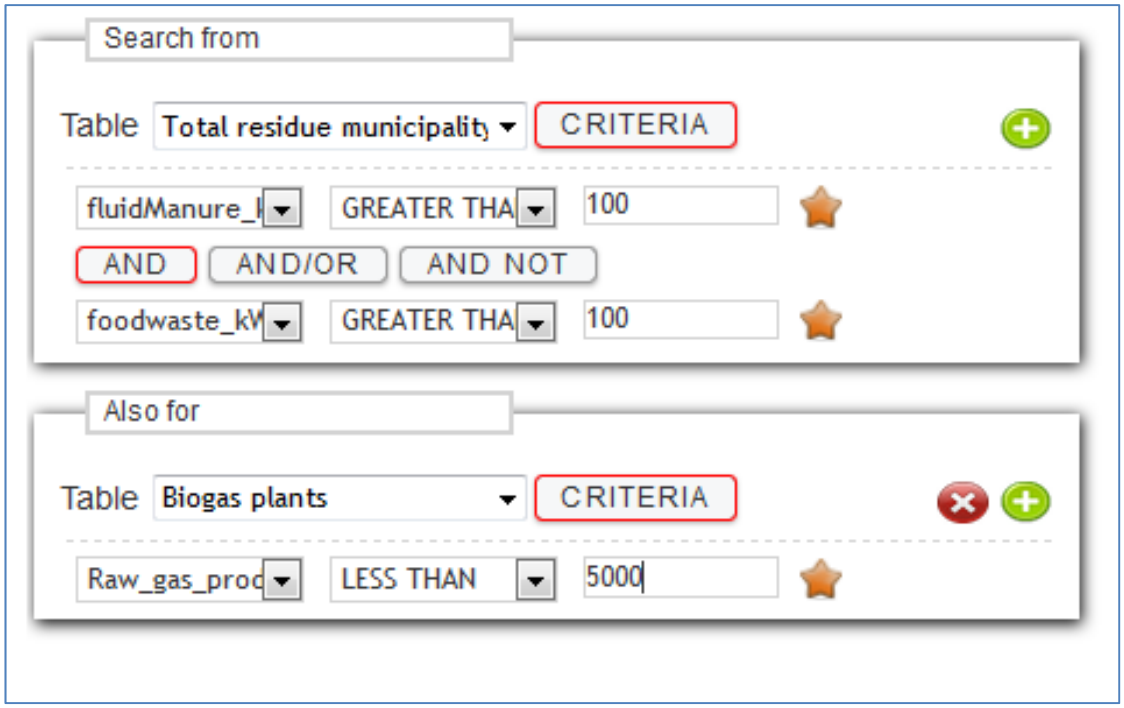
This tool also automatically activates the advanced search tool located on the map toolbar.



1.3.3Search database

By pressing the "Advanced Search" link, the user can search through the database for all data layers contained in the current map.





On the left side of the popup, the user selects one or more data tables he wishes to retrieve results from. For each data table, he may set criteria, by activating the corresponding button. The criteria can be as simple or complex as he chooses, since the tool allies for limitless field combinations.

For each field in a data table, the user can choose from the following *operators:*

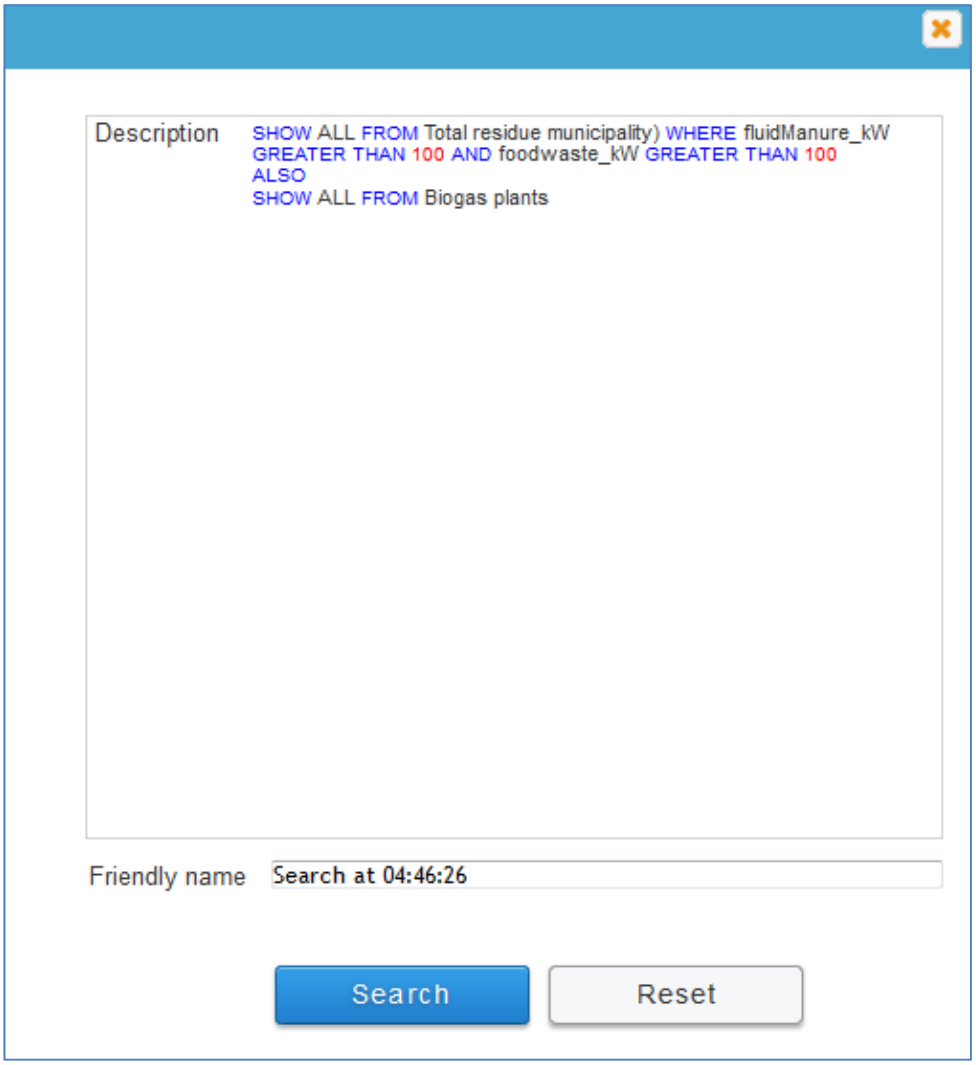
- EQUAL TO (=)

- LIKE (like)
- NOT EQUAL TO (≠)
- GREATER OR EQUAL TO (≥)
- GREATER THAN (>)
- LESS THAN
- LESS OR EQUAL TO (≤)

Fields can be combined with the operators:

- And (both conditions **must** apply)
- And/or (at least one condition must apply)
- And not (The first condition must apply and the second must not).

At the right side of the popup, a description of the final query is displayed, as well as a textbox where the user can give a friendly name to his search. In this case the result of the search will include all the municipalities, with biogas potential based on fluid manure over 5000 kW and simultaneously with additional biogas potential based on foodwaste over 3000 kW.



Both the "search in database" and geotools methods display their results in a common way which is described in the "Displaying results" section.

1.3.4Geotools

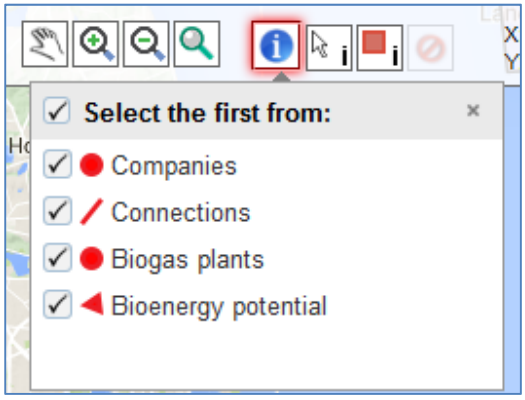
Geotools are displayed on the map toolbar located on the top portion of the map.

These tools are:

- Information
- Select Point
- Select Area
- Clear Selection

Information

By activating it, a frame is displayed where the user selects the layers he wishes to search.



By clicking on the map, the tool searches what is under the mouse cursor.

The difference of the "Information" tool compared to the "Select Point" tool, is that the Information tool returns only one result, located on the top layer.

Select Point

Similar to the Information tool, but all results from all selected layers are returned.

The user can hold the CTRL key to select more than one spots. If the user clicks on an already selected spot while holding CTRL, he will de-select it.

Select Area

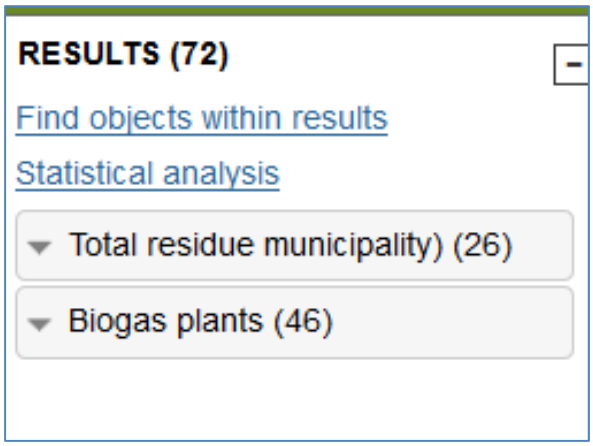
Similar to the "Select Point" tool, this allows the user to draw a rectangular area by holding down the left mouse button.

Clear Selection

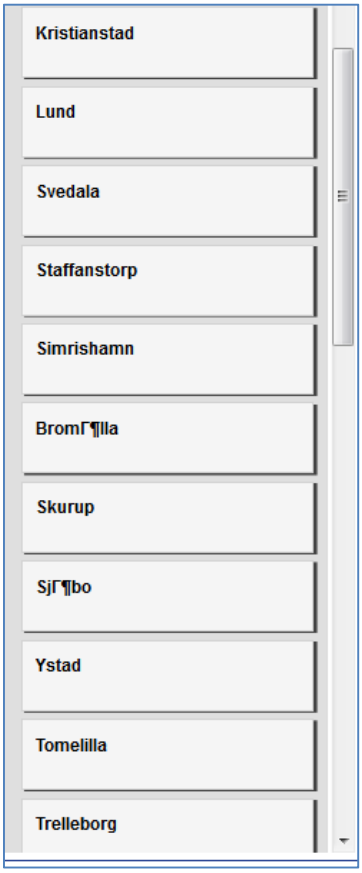
This button clears (hides) the results of a previous search.

1.3.5Displaying results

Results, regardless of whether they come from a database search or from a geotool, are shown on the right side of the map.



The results are grouped by layer. By clicking each layer's title, results are expanded.



By clicking on a result, a popup is shown with the object's full data:

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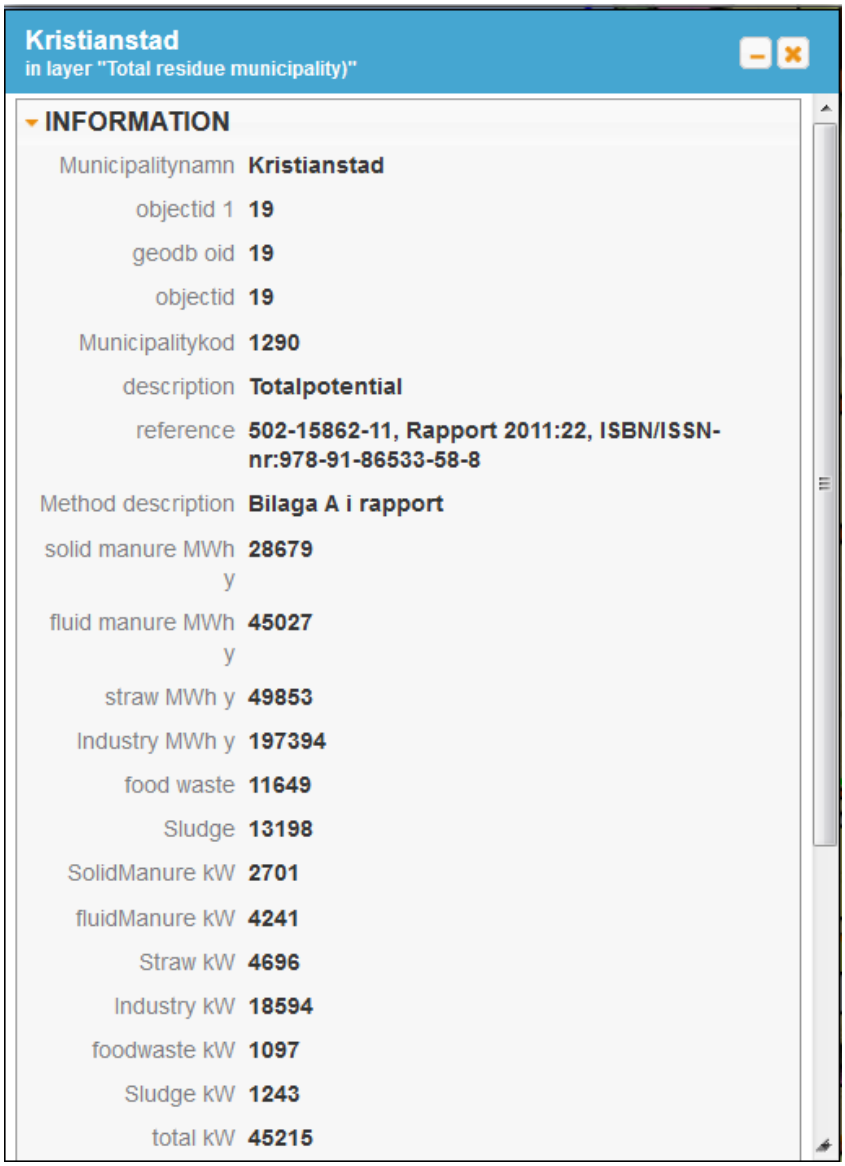
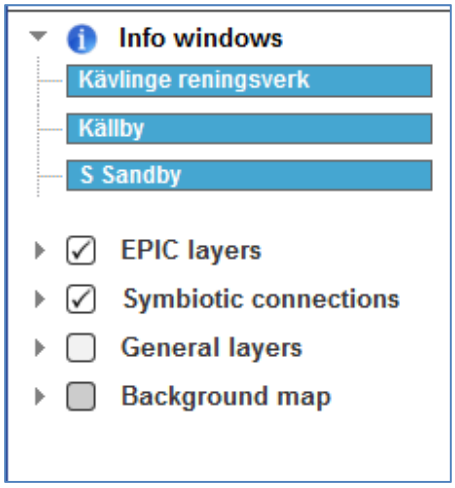


If an object has files or images attached, they would be shown right below information. The user can also press the "Minimize" button, to save the result for later viewing. Minified results are shown alongside the data layers:

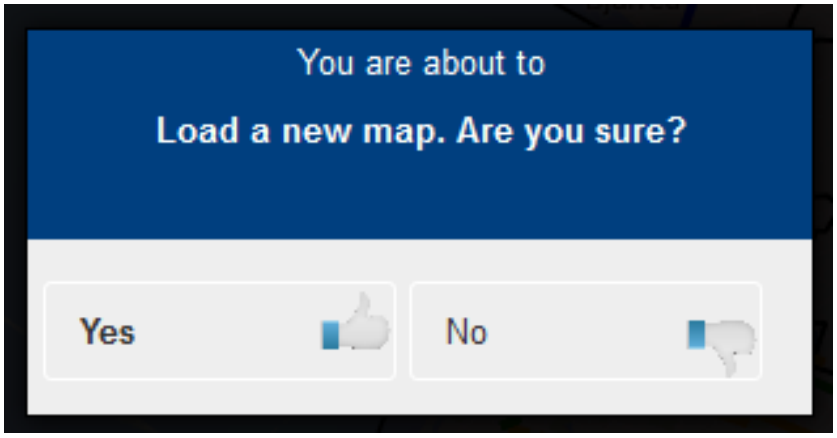


The user can also perform further searches based on his previous selection, by clicking on the "Search results". This can be used for example to: Select the port area, and then get all companies that are within port area limits.

1.4 Change Maps

When the user selects the action "Select EPIC port", a list with the four participating ports' maps appears to choose from.

To load a specific map, confirm the choice in a message that pops up..



A warning message appears before loading a new map.

Confirming the loading of the map shows the layers of information that the map includes in the corresponding window with the current action details. In this application the number of available information layers differs for each port, but mainly consist of four large categories: "EPIC layers", "Symbiotic connections", "General layers" and "Background".

1.5 Printing

To print a map, use the print function of the navigation program you are using.

Before printing, make sure that in the page settings (page setup) you have selected:

- Shrink to fit
- Layout: landscape
- Background print (colors&images)

The application adjusts automatically the full width and height of the window you are using, so, if you want a smaller or a bigger map, you only have to change the size of the window. You can also hide the side columns of the application for maximum map size utility.

1.6 Logistics

Pressing the "Logistics" button will launch the corresponding application. Note that this application requires Java to be installed. To enable Java applications, please make sure that Java is installed and up-to-date (https://java.com/en/download/). You will also need to allow the application to run. For doing so, please go to: Windows Control panel -> Java.

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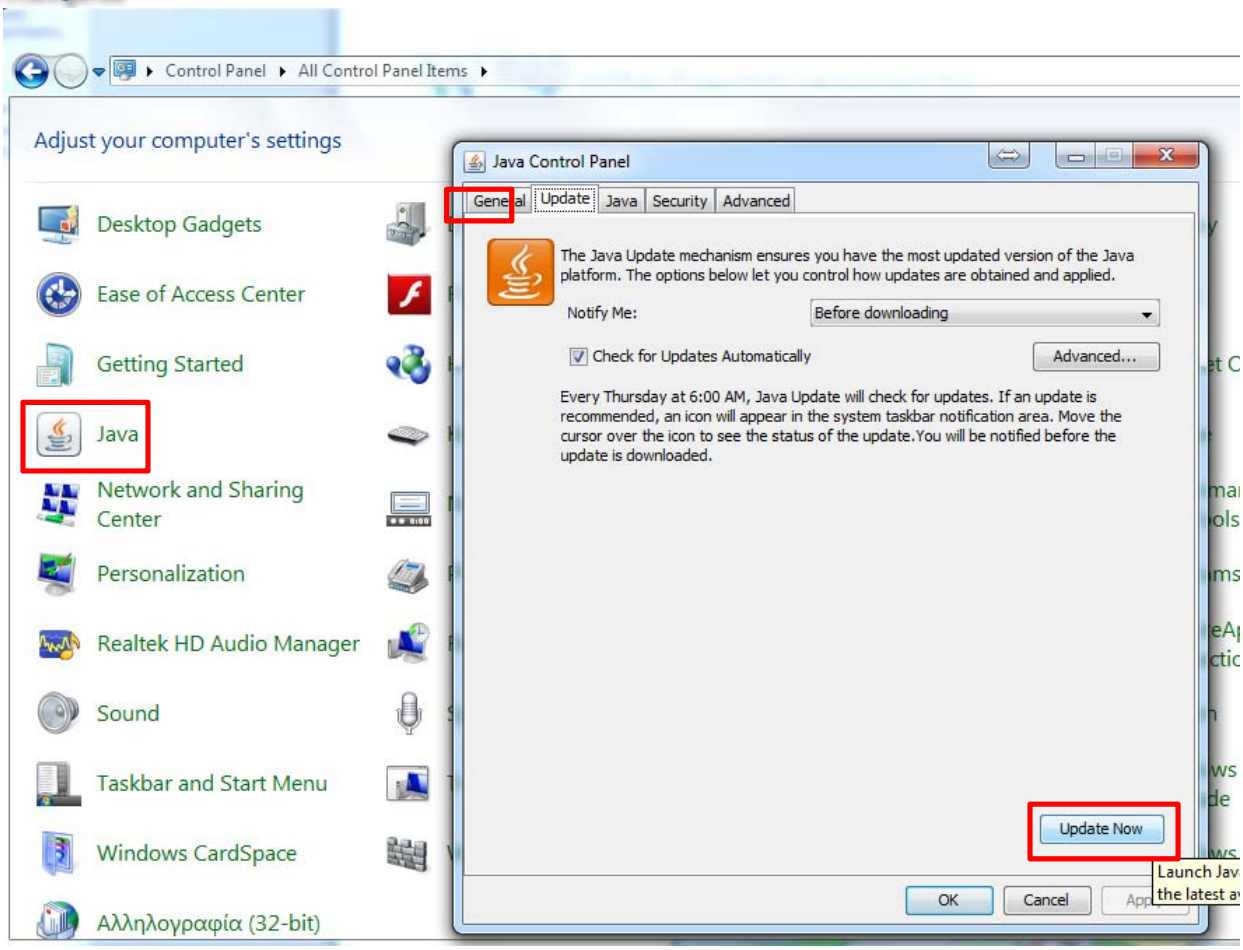
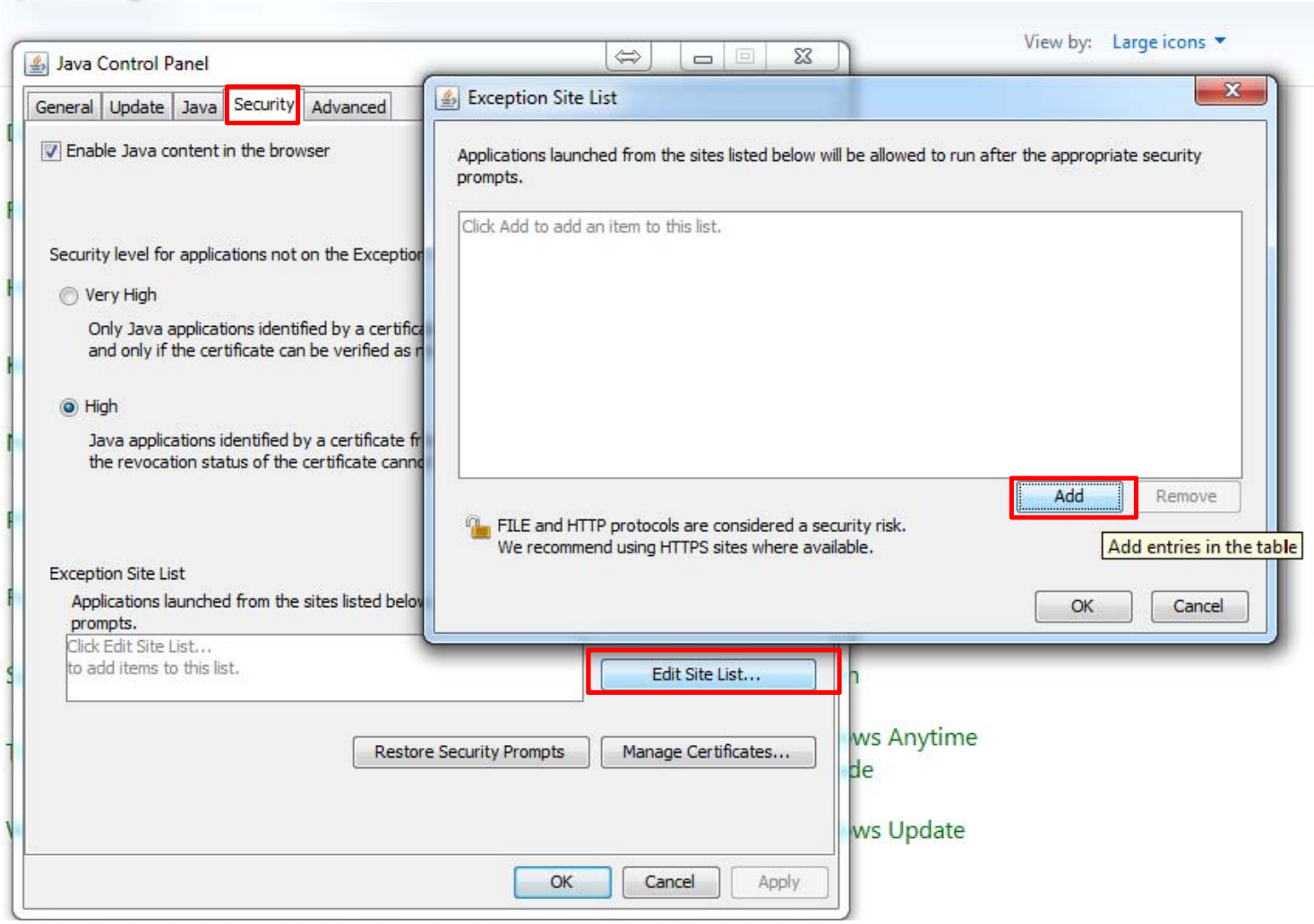

Control Panel ▸ All Control Panel Items ▸
Adjust your computer's settings
Desktop Gadgets
Ease of Access Center
Getting Started
Java
Network and Sharing Center
Personalization
Realtek HD Audio Manager
Sound
Taskbar and Start Menu
Windows CardSpace
Αλληλογραφία (32-bit)
Java Control Panel
General
Update
Java
Security
Advanced
The Java Update mechanism ensures you have the most updated version of the Java platform. The options below let you control how updates are obtained and applied.
Notify Me:
Before downloading
Check for Updates Automatically
Advanced...
Every Thursday at 6:00 AM, Java Update will check for updates. If an update is recommended, an icon will appear in the system taskbar notification area. Move the cursor over the icon to see the status of the update.You will be notified before the update is downloaded.
Update Now
OK
Cancel



Add the website's address and press ok. When the platform is reloaded, the java applet will load.

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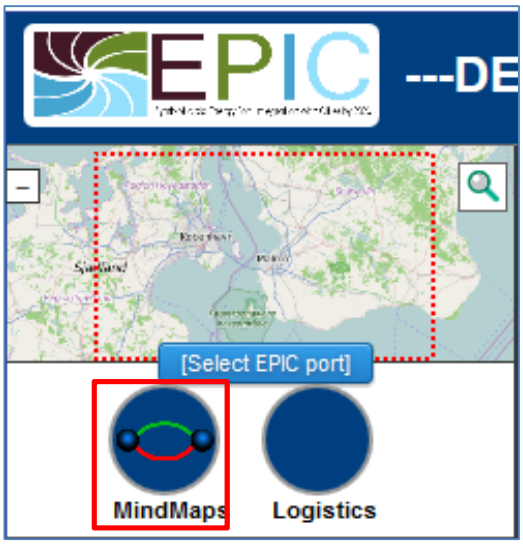
Mindmaps

By pressing the "Mindmaps" button, the user can access the second tool.



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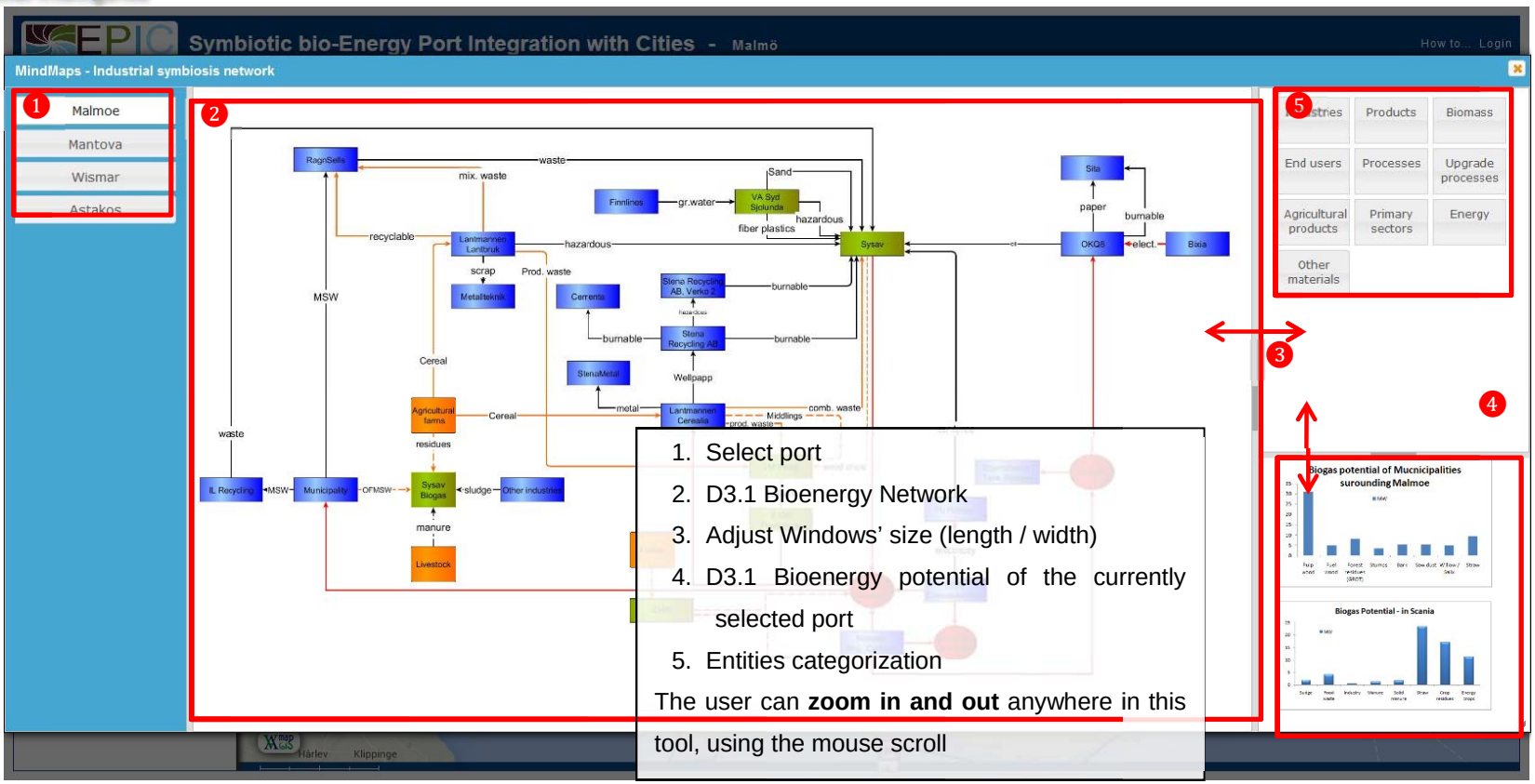

1. Select port
2. D3.1 Bioenergy Network
3. Adjust Windows' size (length / width)
4. D3.1 Bioenergy potential of the currently selected port
5. Entities categorization

The user can **zoom in and out** anywhere in this tool, using the mouse scroll

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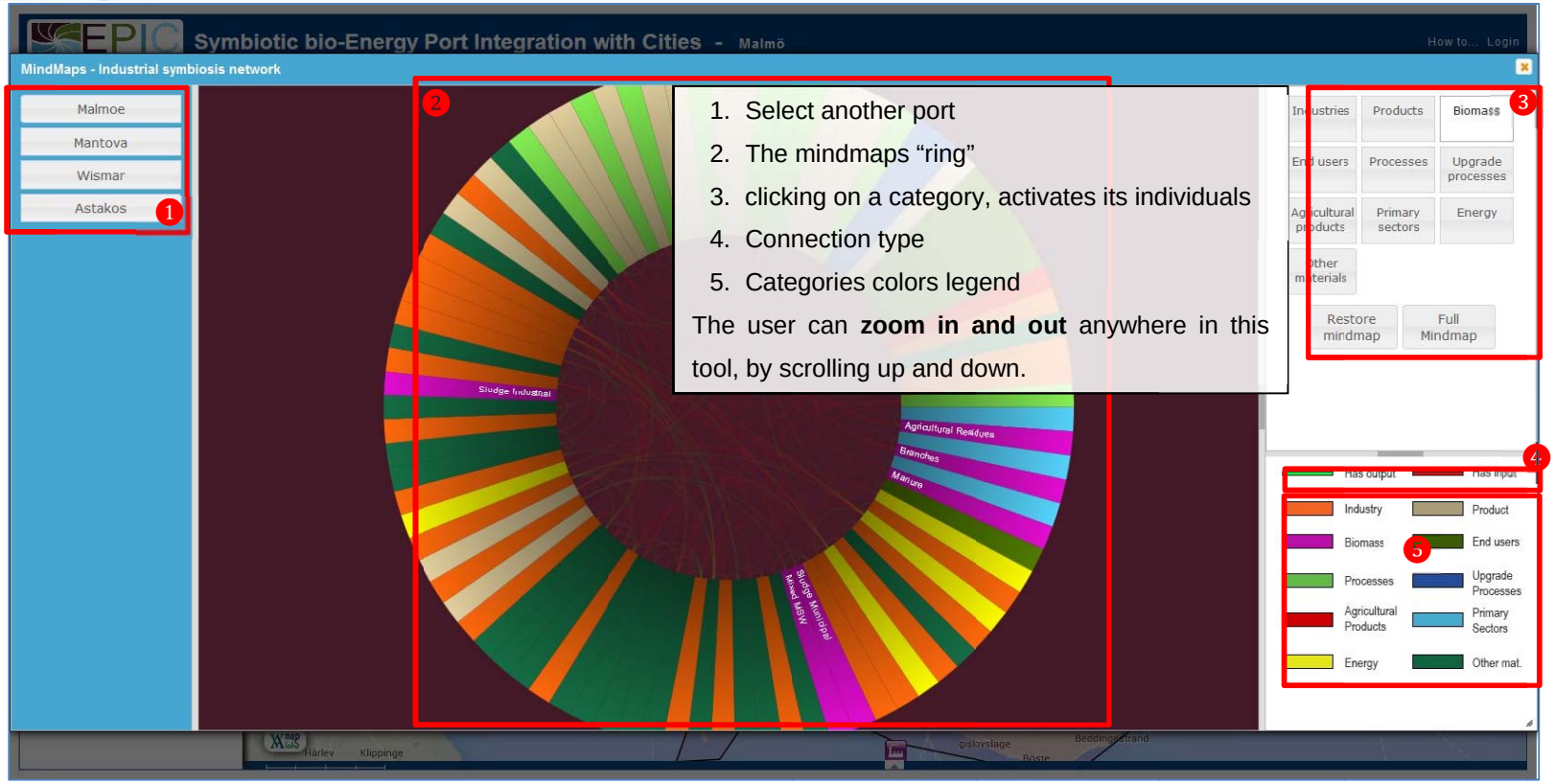

1) The user can navigate to another port.
2) The mindmaps ring is the "universe" of all the entities: both flows and Functional units. By clicking on an entity on the ring, all the connections are activated.
3) The user might choose any category to start the examination of its possible symbiotic links. At the picture above, the biomass category was selected. By clicking on "Full Mindmap" all the entities (individuals) of the ring are highlighted, as well as their connections. To go back to the previous selected category, click on "Restore mindmap".

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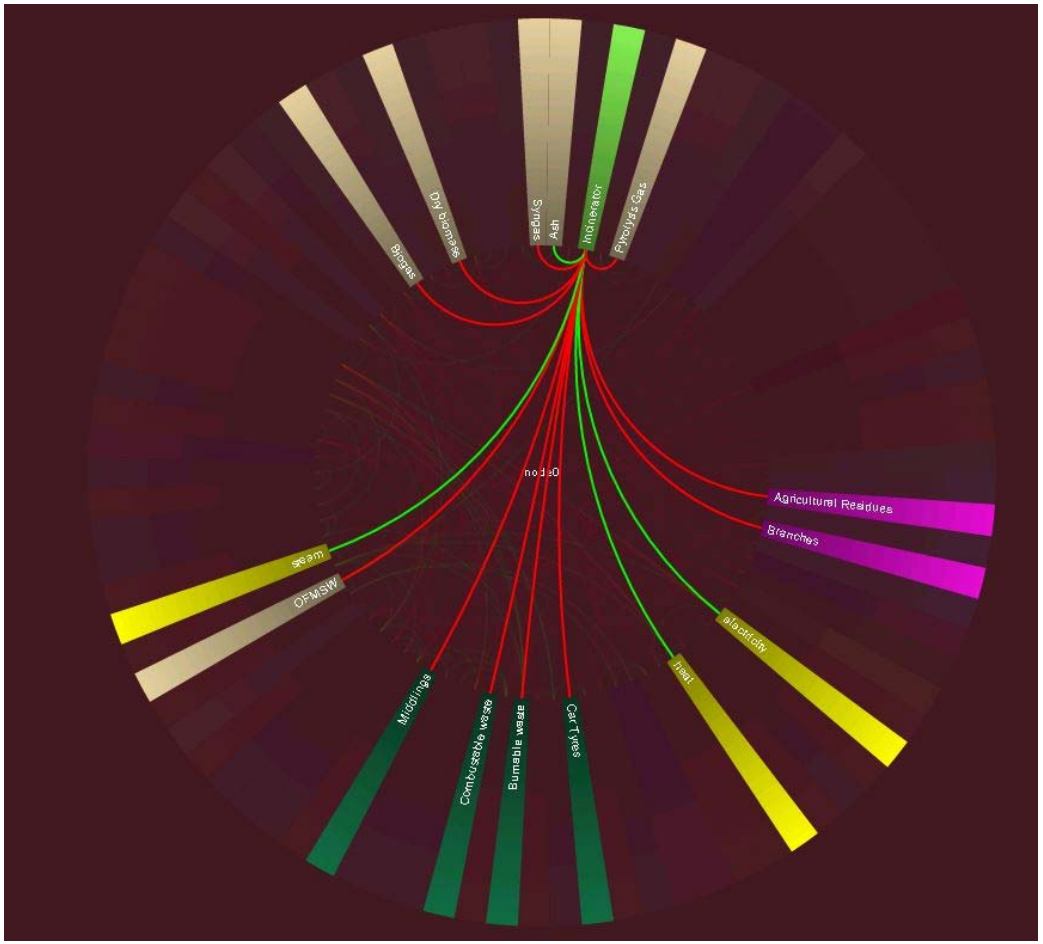
4) The green and red lines indicate the type of connection: An example is shown below

5) All the categories are colored differently for allowing easier examination.

   For example, by clicking on incinerator, the inputs are connected with red lines and the outputs with green.



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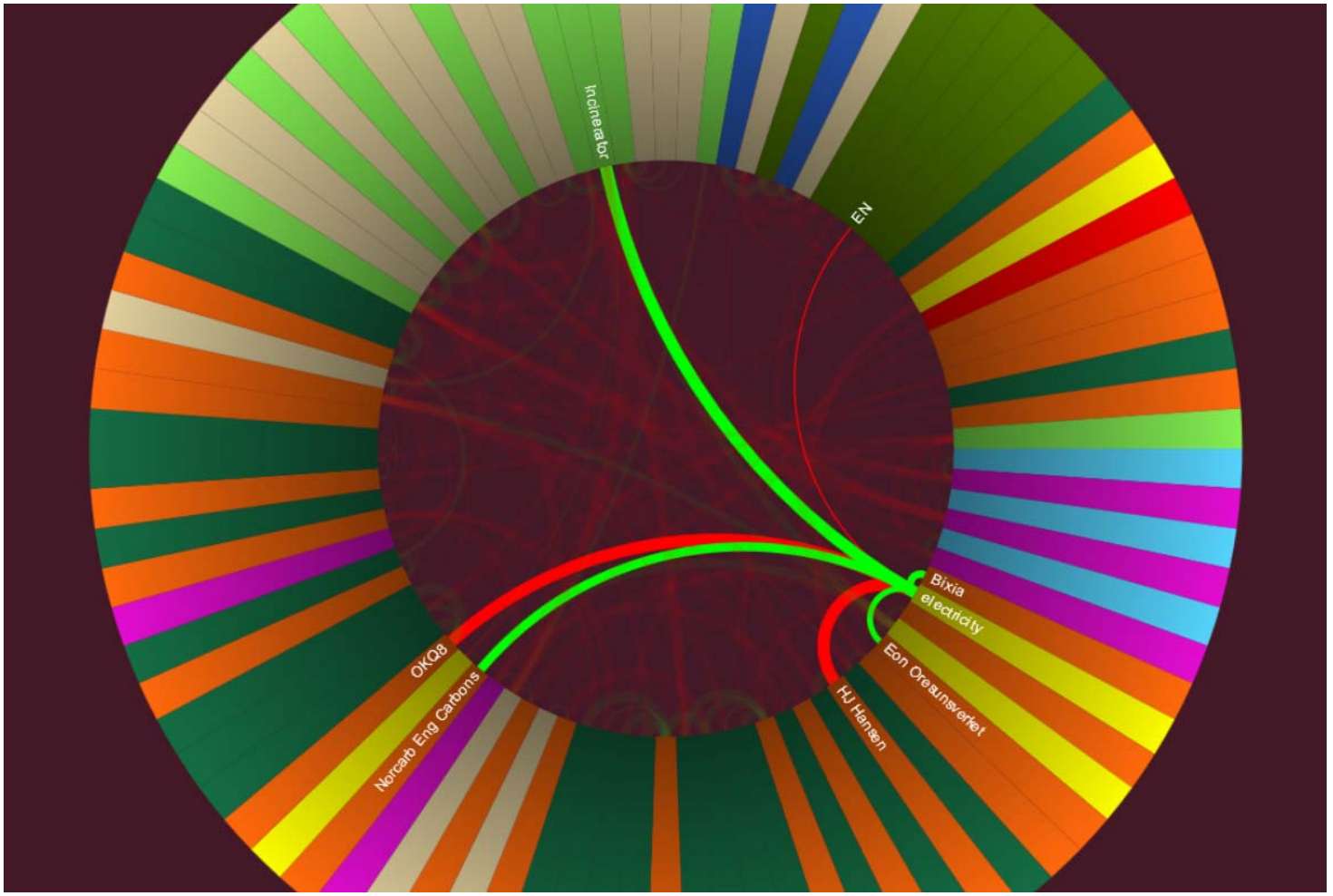
But if the user clicks on a flow: e.g. electricity, then the electricity is connected with red lines with all the functional units that use it in high quantities in production and with green lines to indicate which processes (could) produce it in significant quantities.



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